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EXAMINER

VAN HANDEL, MICHAEL P

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/923,768	Applicant(s) CALLWAY ET AL.	
	Examiner MICHAEL VAN HANDEL	Art Unit 2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-20 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-20 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is responsive to an Amendment filed 2/20/2009. Claims **15-20, 24-29** are pending. Claims **15, 20, 24, 26-29** are amended. Claims **1-14, 21-23, 30** are canceled.

Response to Arguments

1. Applicant's arguments regarding claims **15, 20, 24, and 26-29**, filed 2/20/2009, have been fully considered, but they are not persuasive.

Regarding claims **15, 20, 24, and 26-29**, the applicant argues that the submitted prior art reference discloses inherent language that can be used to further define "drawing command." The examiner respectfully disagrees. Applicant's specification does not appear to indicate that the drawing commands are the commands discussed in "Computer Graphics Principles and Practice." As such, the subject matter of the Computer Graphics reference is not inherent to Applicant's specification.

Regarding Examiner's objection to claim **20**, the applicant argues that the limitation "wirelessly sending the graphic drawing commands" is supported at least at p. 14, lines 6-9 of Applicant's specification, which states that "in addition to ... sending only recompressed images, the system may also send rendering commands between the transmitter 108 (i.e., wireless drawing command transmitting unit) and the receiver 200 to allow some shadow rendering by the receiver 200." The examiner respectfully disagrees. As noted in the Office Action mailed 8/20/2008, claim 20 recites the phrase "wirelessly sending *the* graphic drawing commands"

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(italicized for emphasis), referring back to the graphic drawing commands used to produce the rendered graphics image data that has been sent to the wireless monitor. Page 14, lines 6-9 of Applicant's specification refers to an alternative scenario where rendering commands are transmitted in addition to recompressed images. In previous scenarios of Applicant's specification, graphics are rendered at the transmitter based on rendering commands, and the graphics are blended with images. The blended graphics/image data is then recompressed and transmitted to the receiver. Claim 20 recites a scenario like these previous scenarios, but also includes the transmitting of the drawing commands of the alternative scenario. The examiner notes that this is not disclosed by Applicant's specification and that it doesn't logically make sense, since the graphics produced by the drawing commands have already been rendered, blended, and recompressed with the image data at the transmitter for transmission to the receiver and the receiver does not need to draw the graphics anymore. The examiner further notes that Applicant's specification states that "Shadow rendering by wireless devices are provided wherein drawing commands are communicated wirelessly to avoid high bandwidth transmission of rendered pixel data to facilitate a wireless link between a monitor, for example, and an image rendering source" (p. 23, lines 4-7 of Applicant's specification). This suggests that graphics drawing commands are sent instead of rendered graphics image data in the alternative scenario, so that the receiver can render the graphics without actually having to send the graphics pixel data itself. This also makes logical sense, since the graphics drawing commands would not be needed by the receiver if the commands had already caused the graphics to be rendered and transmitted to the receiver.

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Further regarding claims **15, 20, 24, and 26-29**, the applicant argues that Hannah fails to show, teach, or suggest sending graphics drawing commands wirelessly to be processed remotely, wherein the graphics drawing commands include at least geometric primitive information. The examiner respectfully disagrees. The examiner first notes the rejection of claims 15, 20, 24, and 26-29 under 35 USC, 112, first paragraph below. As noted in the Office Action mailed 8/20/2008, Hannah discloses that motion vectors are stored in video encoding to describe how a video receiver should render an image. Hannah illustrates this in the example of compressing a motorcyclist object 174c in a sequence of video frames. Since the motorcyclist image is likely to move to a different set of macroblocks in successive frames of the image, a macroblock 172 of a video frame 170 may be compared to macroblocks 172 in both previous frames and subsequent frames, looking for a matching image, such as the motorcyclist object 174c. Once found, a representation of the movement of the object, known as a motion vector, may be stored in lieu of a complete representation of the movement of the object 174c (col. 4, l. 44-52 & Fig. 2). Similarly, a tree object that is found in the same set of macroblocks in subsequent frames may be encoded by storing a reference to a single encoded frame in all subsequent frames which include the tree (col. 4, l. 33-43). Thus, the examiner interprets “motion vectors” and frame references to be graphics drawing commands, “wherein the graphics drawing commands include at least geometric primitive information,” as currently claimed, because objects within video are moved and rendered based on the motion vectors and frame references. Applicant’s cited Computer Graphics reference refers to display primitives as matching those stored in geometric models. Similarly, Hannah discloses utilizing a motorcyclist or tree image pre-stored in a previous frame in successive frame by way of motion vectors and

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frame references. The examiner notes that “[d]uring patent examination, the pending claims must be ‘given their broadest reasonable interpretation consistent with the specification.’” The “PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant’s specification.” “Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified.” See **MPEP 2111**.

Claim Objections

1. The examiner fails to find support for the last limitation of amended claim 20 in Applicant’s specification. In Applicant’s remarks, the applicant has stated that claim 20 has been rewritten in independent form; however, the examiner notes that the last limitation has been amended to refer back to the first limitation of the claim. That is, the claim now recites the phrase “wirelessly sending *the* graphic drawing commands” (italicized for emphasis), referring back to the graphic drawing commands used to produce the rendered graphics image data that has been sent to the wireless monitor. Applicant’s specification states that “[t]he above structures and methods provide a wireless monitor and system. Shadow rendering by wireless devices are provided wherein drawing commands are communicated wirelessly to avoid high bandwidth transmission of rendered pixel data to facilitate a wireless link between a monitor, for example, and an image rendering source” (p. 23, lines 4-7 of Applicant’s specification). This

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suggests that graphics drawing commands are sent instead of rendered graphics image data, so that the receiver can render the graphics without actually having to send the graphics pixel data itself. This also makes logical sense, since the graphics drawing commands would not be needed by the receiver if the commands had already caused the graphics to be rendered and transmitted to the receiver. The examiner requests that Applicant provide the examiner with the appropriate passages supporting the amended claim.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims **15-20, 24-29** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Referring to claims **15, 20, 24, and 26-29**, the examiner fails to find support in Applicant's specification for the amended phrase "wherein the graphics drawing commands include at least geometric primitive information," as currently claimed. Applicant's specification states that the graphics processing circuit processes rendering commands to produce rendered graphics image data (p. 2, paragraph 18 of published application US 2003/0027517), but the

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examiner fails to find where in Applicant's specification it is stated that the graphics drawing commands include at least geometric primitive information, as currently claimed.

Claims **16-19** and **25** are rejected as being dependent on the above-mentioned independent claims.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **15-20**, **24-29** are rejected under 35 U.S.C. 102(e) as being anticipated by Hannah.

Referring to claim **15**, Hannah discloses a method for providing image data for a wireless monitor comprising:

- in a device:
 - o processing graphics drawing commands using a first processor to produce rendered graphics image data (enhancement block 104 adds graphical elements to video frames)(col. 2, l. 13-34, 49-56) and storing the rendered graphics image data to a frame buffer, wherein the graphics drawing commands include at least geometric primitive information (the examiner notes that a frame buffer is inherent to the enhancement block 104, since the enhancement block 104 derives motion vector hints and generates an

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enhanced image 114 based upon an enhancement made to an original image)(col. 2, l. 13-24, 50-67; col. 3, l. 1-67; col. 4, l. 1-67; col. 5, l. 1-67; col. 6, l. 58-64; col. 7, l. 29-48; & Figs. 4, 6);

- retrieving the rendered graphics image data from the frame buffer over a local bus using a second processor (encoder 106)(Fig. 1);
- encoding, by the second processor, the retrieved rendered graphics image data to produce encoded graphics image data (col. 2, l. 66-67; col. 3, l. 1-2, 5-16; & col. 7, l. 29-39); and
- sending the encoded graphics image data to a wireless monitor using a short range wireless transmitter (the examiner notes that a short range wireless transmitter and a short range wireless receiver are inherent to re-broadcasting MPEG-2 transmissions to remote displays without the need for a cable connection)(col. 2, l. 28-32; col. 3, l. 1-2, 5-16; col. 5, l. 46-53; & col. 9, l. 30-36).

Referring to claim **16**, Hannah discloses the method of claim 15, comprising:

- decompressing a compressed video stream to produce a decompressed video stream (col. 2, l. 20-22, 38-48);
- recompressing the decompressed video stream to produce a recompressed video stream (col. 2, l. 30-34; col. 3, l. 1-2, 5-16); and wherein sending the encoded graphics image includes sending the recompressed video stream using the short range wireless transmitter (col. 2, l. 20-34, 66-67; col. 3, l. 1-2, 5-16; col. 4, l. 7-8; col. 5, l. 60-63; & col. 7, l. 29-63).

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Referring to claim **17**, Hannah discloses the method of claim 16, comprising:

- combining the rendered graphics image data with the decompressed video stream to produce frames of image data (col. 2, l. 13-67 & col. 3, l. 1-2, 5-16);
- storing the frames of image data in the frame buffer prior to recompressing (see examiner's note regarding the frame buffer in claim 10 above); and
- retrieving the frames of image data for recompression (col. 2, l. 66-67; col. 3, l. 1-2, 5-16; col. 7, l. 29-39).

Referring to claim **18**, Hannah discloses the method of claim 15, comprising locally displaying the rendered graphics image data on a local display (col. 2, l. 35-48 & Fig. 1).

Referring to claim **19**, Hannah discloses the method of claim 15, comprising:

- receiving, by the wireless display, a compressed video stream containing graphics and recompressed video (the examiner notes that this is inherent to Hannah, since it is required for reception of the transmitted graphics and video)(col. 2, l. 28-34; col. 3, l. 1-2, 5-16; & col. 5, l. 46-57);
- decompressing the received compressed video stream by the wireless display and producing decompressed image frames (the examiner notes that this is inherent to Hannah, since the received compressed video stream must be decompressed in order to view the content); and
- displaying the decompressed image frames on the wireless display (col. 5, l. 54-57).

Referring to claim **20**, Hannah discloses the method for providing image data for a wireless monitor comprising:

- in a device:

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- processing graphics drawing commands using a first processor (decoder 102)(Figs. 1, 5, 6) to produce rendered graphics image data and storing the rendered graphics image data to a frame buffer, wherein the graphics drawing commands include at least geometric primitive information (the examiner notes that a frame buffer is inherent to the enhancement block 104, since the enhancement block 104 derives motion vector hints and generates an enhanced image 114 based upon an enhancement made to an original image)(col. 2, l. 13-24, 50-67; col. 3, l. 1-67; col. 4, l. 1-67; col. 5, l. 1-67; col. 6, l. 58-64; col. 7, l. 29-48; & Figs. 4, 6);
- retrieving the rendered graphics image data from the frame buffer over a local bus using a second processor (encoder 106)(Fig. 1);
- encoding, by the second processor, the retrieved rendered graphics image data to produce encoded graphics image data (col. 2, l. 66-67; col. 3, l. 1-2, 5-16; col. 7, l. 29-39);
- sending the encoded graphics image data to a wireless monitor using a short range wireless transmitter (the examiner notes that a short range wireless transmitter and a short range wireless receiver are inherent to re-broadcasting MPEG-2 transmissions to remote displays without the need for a cable connection)(col. 2, l. 28-32; col. 3, l. 1-2, 5-16; col. 5, l. 46-53; & col. 9, l. 30-36); and
- wirelessly sending the graphic drawing commands to a short range wireless receiver (the examiner notes that Hannah discloses sending motion vectors

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describing the color, dimension, and motion of objects in a video stream and that some of these motion vectors could be unaffected motion vectors 118)(col. 3, l. 40-50; col. 4, l. 44-52; col. 6, l. 58-60; & col. 7, l. 40-51; & Fig. 2).

Referring to claim **24**, Hannah discloses a method for providing image data for a wireless monitor comprising:

- decompressing, by a first apparatus, a compressed video stream to produce a decompressed video stream (col. 2, l. 20-22, 38-48);
- recompressing the decompressed video stream to produce a recompressed video stream (col. 2, l. 30-34; col. 3, l. 1-2, 5-16);
- sending the recompressed video stream wirelessly and sending graphics drawing commands wirelessly to be processed remotely, wherein the graphics drawing commands include at least geometric primitive information (the examiner notes that motion vectors are transmitted in the video stream and used in decoding and decompressing the video images. The examiner interprets these to be graphics drawing commands)(col. 2, l. 20-34, 66-67; col. 3, l. 1-2, 5-16, 36-40; col. 4, l. 7-8; col. 5, l. 60-63; & col. 7, l. 29-63).

Referring to claim **25**, Hannah discloses the method of claim 24 comprising:

- processing, by a second apparatus, wirelessly received graphics drawing commands to produce rendered graphics data (the examiner notes that this is inherent to Hannah, since it is required for reception of the transmitted graphics and video)(col. 2, l. 28-34; col. 3, l. 1-2, 5-16; & col. 5, l. 46-57); and

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- decompressing the recompressed video stream and combining the rendered graphics image data with the decompressed video stream to produce frames of image data (the examiner notes that this is inherent to Hannah, since the received compressed video stream must be decompressed in order to view the video and graphics content).

Referring to claims **26** and **27**, Hannah discloses a method/apparatus for processing graphics and video comprising:

- recompressing a received compressed video stream to produce a recompressed video stream (col. 2, l. 30-34; col. 3, l. 1-2, 5-16); and
- transmitting wirelessly said recompressed video stream with graphics drawing commands, wherein the graphics drawing commands include at least geometric primitive information (the examiner notes that motion vectors are transmitted in the video stream and used in decoding and decompressing the video images. The examiner interprets these to be graphics drawing commands)(col. 2, l. 20-34, 66-67; col. 3, l. 1-2, 5-16, 36-40; col. 4, l. 7-8; col. 5, l. 60-63; & col. 7, l. 29-63).

Referring to claim **28**, Hannah discloses a method for providing image data for a wireless display comprising:

- receiving, via a short range wireless receiver, a recompressed video stream and graphics drawing commands, wherein the graphics drawing commands include at least geometric primitive information (the examiner notes that this is inherent to Hannah, since it is required for reception of the transmitted graphics and video without a cable connection)(col. 2, l. 28-34; col. 3, l. 1-2, 5-16; & col. 5, l. 46-57);

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- decompressing the received recompressed video stream to produce decompressed image frames and processing the wirelessly received graphics drawing commands to produce rendered graphics image data (the examiner notes that this is inherent to Hannah, since the received compressed video stream must be decompressed and processed in order to view the video and graphics content); and
- displaying the decompressed image frames and graphics image data on a local display (col. 5, l. 54-57).

Referring to claim **29**, Hannah discloses a wireless display system comprising:

- a first unit operative to:
 - o send graphics drawing commands to a short range wireless receiver using a short range wireless transmitter, wherein the graphics drawing commands include at least geometric primitive information (the examiner notes that motion vectors are transmitted in the video stream and used in decoding and decompressing the video images. The examiner interprets these to be graphics drawing commands. The examiner further notes that a short range wireless transmitter and a short range wireless receiver are inherent to re-broadcasting MPEG-2 transmissions to remote displays without the need for a cable connection)(col. 2, l. 28-32; col. 3, l. 1-2, 5-16; col. 5, l. 46-53; & col. 9, l. 30-36); and
- a wireless display operative to:
 - o receive, via a short range wireless receiver, the recompressed video stream and graphics drawing commands (the examiner notes that this is inherent to

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Hannah, since it is required for reception of the transmitted graphics and video without a cable connection)(col. 2, l. 28-34; col. 3, l. 1-2, 5-16; & col. 5, l. 46-57);

- decompress the received recompressed video stream to produce decompressed image frames and process the wirelessly received graphics drawing commands to produce rendered graphics image data (the examiner notes that this is inherent to Hannah, since the received compressed video stream must be decompressed and processed in order to view the video and graphics content); and
- display the decompressed image frames and graphics image data on a local display (col. 5, l. 54-57).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL VAN HANDEL whose telephone number is (571)272-5968. The examiner can normally be reached on 8:00am-5:30pm Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Kelley/
Supervisory Patent Examiner, Art Unit
2424

MVH